Jay Patel

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EDUCATION

UNIVERSITY OF DELAWARE Newark, DE
Cumulative GPA: 3.88
Dean's List Achievement Award Recipient
Bachelor of Science, College of Engineering *May 2025*
- Major: Computer Science

Bachelor of Science, College of Arts and Sciences *May 2025*
- Major: Biological Science

Relevant Course Work: Introduction to Software Engineering, Introduction to Systems Programming, Data Structures, Introduction to Computer Science I and II, Parallel Computing, Automata Theory, Introduction to Algorithms

SKILLS

Languages: Python, Typescript, JavaScript, C++, C, HTML/CSS, Java, Cuda, OpenACC
Technologies: Git, GitHub, REST API, Linux, HPC Clusters: Perlmutter, and Darwin
Libraries & Frameworks: Bootstrap, Semantic-UI, React, React Query, Node.js, Pandas, BeautifulSoup4, Huggingface

EXPERIENCE

University of Delaware Newark, DE
Undergraduate Research Assistant – Advisor Sunita Chandrasekaran – CRPL *March 2024 – Present*
- Collaborated closely with engineers from industry leaders such as NVIDIA, AMD, HPE Cray, and national laboratories throughout the development and validation phases. This project showcased proficiency in server-side development and demonstrated effective teamwork and communication skills in a collaborative environment.
- Conducting innovative research on using large language models (LLMs) to autonomously generate and evaluate validation and verification test suites for OpenACC, and OpenMP. Experiements are done on Perlmutter, a supercomputer.
- Designed and deployed a server application on a Linux-based system using the open source LLVM LNT infrastructure. The application enabled seamless access and review of test results, contributing to enhanced transparency and accessibility in the testing process.
- Implemented an OpenACC-focused validation test suite, targeting the functionality across NVIDIA, HPE Cray and GNU GCC complier implementations.

University of Delaware Newark, DE
Undergraduate Teaching Assistant – Intro to Software Engineering *January 2024 – Present*
- Assist students in understanding course materials, clarifying concepts, and addressing queries about lectures, readings, and assignments.
- Familiarize students with the technologies utilized in the course, including but not limited to TypeScript, React, Agile, assisting them in navigating tools and platforms effectively.
- Conduct regular office hours and lab sessions to assist with student inquiries, clarify concepts, and provide support beyond class time.

PROJECTS & ACTIVITIES

CIS Plan Scheduler Live link | GitHub Repository
Develop a streamlined academic planning app with TypeScript, React, Bootstrap, and Firebase, enabling users to easily customize and organize semesters, degree plans, and courses with efficient data management and authentication for seamless export.
- Implemented a responsive and visually appealing UI focusing on minimalistic design and user-friendly elements to optimize the overall browsing experience.
- Designed and integrated modals for users to create/delete degree plans, providing a comprehensive view of existing plans and seamless semester addition for an intuitive interface.
- Utilized agile methodologies to adapt to changing requirements and improve project efficiency.

Film Rating Application GitHub Repository
The TypeScript and React-powered Film Rating App, using Semantic UI, explores top-rated movies and upcoming releases from TMDB API. Users can rate and influence overall ratings for movies and TV shows, creating an immersive cinematic experience.
- Implemented responsive components, including a film page with rows of card-like objects, each featuring movie or TV show images and concise descriptions with the help of Semantic-UI.
- Leveraged the power of the TMDB API to fetch comprehensive data about movies and TV shows, extracting information such as titles, descriptions, release dates, and genre tags to present users in each film card.
- Used the react-query's mutation to dynamically update the overall score of each film, providing real-time feedback on user-contributed ratings.

Newegg GPU/CPU Price Scraper GitHub Repository
Efficient Web Scraping in search for Budget-Friendly GPUs and CPUs on Newegg crafted using Beautiful Soup, and Python
- Employed Beautiful Soup to navigate and parse HTML documents retrieved from Newegg's product pages. Extracting key information such as product names, prices, and direct links, ensuring a concise presentation of the most relevant details for the user.